DEPARTMENT OF HEALTH

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FOUR YEARS IN THE DEPARTMENT OF HEALTH

BY

ERNST J. LEDERLE, PH.D.
COMMISSIONER OF HEALTH

Public health is purchasable. Within natural limitations a community can determine its own death rate.

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LETTER OF TRANSMITTAL.

January 10, 1914.

ERNST J. LEDERLE, Ph.D.,
Commissioner of Health.

SIR:

So many requests have been received for the December number of the Monthly Bulletin, containing a review of the work of the Department of Health during the past four years, that I respectfully request the reprinting of this article in order to make it available for wider distribution.

Respectfully,

CHARLES F. BOLDUAN,
Assistant to the General Medical Officer.

Approved for publication,
ERNST J. LEDERLE, Ph.D.,
Commissioner of Health.

January 10, 1914.

FOUR YEARS IN THE DEPARTMENT OF HEALTH.

A Review of Some Advances Since January 1, 1910.

By

Ernst J. Lederle, Ph.D.,
Commissioner of Health.

The last four years have seen many notable advances in the supervision of public health in New York City. The steadily increasing interest of all classes of citizens in health problems has been met by a constant expansion of municipal health functions and a more effective organization of the forces of public control backed by increased appropriations. This public interest has also found expression through the activities of the many voluntary associations organized with philanthropic, research, and preventive objects. With the co-operation of such associations of public spirited citizens, a municipal health department is doubly armed to impress upon the community the value of the activities it directs in the public interest. There is now a marked tendency for such organizations to render notable service by preliminary experimental work which will convince the public and the financial authorities of the city of the value of new lines of sanitary supervision. It is gratifying to record at the end of the four years under review, that, in spite of some efforts at selfish exploitation of deficiencies in the health service of the city for the benefit of the investigating organizations, there has been on the whole a remarkable total of constructive co-operation between these private associations and the public department without which many of the advances herein mentioned could not have been attained. Nor should any account of improvement in health conditions in New York fail to take note of the important bearing of the work of co-ordinate city departments. Without attempting, however, to apportion the credit among the various agencies, visible and invisible, which have contributed to the final result, the following review of some of the recent lines of progress is offered as a record in which the citizen of New York may take some measure of satisfaction.

Reduction of the Death Rate.

The death rate of the city per 1,000, for the four years of the present administration, as compared with 1909, the year previous, was as follows:

1909.....16.00
1910.....15.98
1911.....15.13
1912.....14.11
1913.....13.76

During the year 1912, the death rate of Chieago was 14.68; London, 13.52; Berlin, 14.39; and Paris, 16.38. The death rate of New York at present, therefore, approximates very elosely to that of London, whieh is lowest among the great eities of the world.

Reduction of Infant Mortality.

The infant mortality per 1,000 births has been reduced from 128 in 1908 to 102 in 1913, and it is this reduetion whieh has been so largely responsible for the deereased general death rate in New York City. In the following table are shown the number of deaths of infants under one year of age and the rate per 1000 births. Also the number of deaths from diarrhœal disease of infants under one year, and the rate per 1,000 births.

Infant Mortality Under One Year per 1,000 Births.

	All Causes.		*Diarrhoeal Diseases.*	
	Rate per 1,000 Births		Rate per 1,000 Births	
1909.....	15,976	129.	4,254	34.6
1910.....	16,212	125.	5,807	37.2
1911.....	15,053	112.	3,853	28.6
1912.....	14,289	105.	3,392	25.0
1913.....	13,781	102.	3,037	22.4

Infants' Milk Stations.

In 1912, 55 infants' milk stations were established following the sueeess of 15 experimental stations established in 1911. These stations have eontributed materially in the reduetion of infant mortality. The important part played by the New York Milk Committee and other private ageneies in the experimental development of these stations is a notable instanee of publie serviee. All organizations maintaining milk depots are now effeetively assoeiated with the Department of Health in the Babies' Welfare Assoeiation.

The milk stations of the department are loeated as follows: Borough of Manhattan, 27 stations; Borough of The Bronx, 2 stations; Borough of Brooklyn, 24 stations; Borough of Queens, 1 station; Borough of Riehmond, 1 station. Owing to legal restriction, the department is unable to sell direetly the milk dispensed. Speeifieations defining the eharaeter and standard of the milk are submitted to various milk dealers who agree to furnish milk of the quality stated at a fixed priee per quart. The Department of Health furnishes the refrigerating faeilities. The eontraetor provides an employee at eaeh of the stations who handles the milk, makes the sales, and is responsible for the payment to the eontraetor of the money reeeived, without any reliability or responsibility attaehing to the Department of Health. The department provides a physieian and nurse for each station and such help as may be neeessary.

Pasteurization of Milk.

By the steady pressure of increasingly stringent regulations, the percentage of pasteurized milk to the total daily supply has been raised from 7 per cent. at the beginning of the administration to 75 per cent. at the present time.

Grading of the Milk Supply.

By the adoption for the first time of a milk grading system in the Sanitary Code and by accompanying regulations, every can and bottle of milk coming into New York City is required to bear a label explaining in simple terms, comprehensible to every citizen, just what grade and quality of milk he is purchasing.

Since January, 1910, the improvement of the sanitary control of the milk supply has been one of the foremost subjects under consideration by the Department of Health. Early in January, 1912, the Board of Health officially adopted the following plan of grading and labeling of all milk brought into the city and sold there:

Grade A. For Infants and Children.

1. *Certified Milk*, milk certified by a Milk Commission appointed by the Medical Society of the County of New York and of the County of Kings as being produced under the supervision of and in conformity with the requirements of that Commission.

2. *Guaranteed Milk*, produced under the same standards as Certified Milk, but under the supervision of the Board of Health.

3. *Inspected Milk, Raw.* This milk must come from tuberculin tested cows. Farms must obtain in an official score at least 75 points with a minimum of 25 points for equipment and 50 points for method. The milk must not contain more than an average of 60,000 bacteria per c. c. when delivered to the consumer.

4. *Selected Milk, Pasteurized.* Farms must obtain at least 60 points in official score; 20 at least for equipment and at least 40 for method. The milk must be pasteurized as prescribed by the rules and regulations of the department, which, of course, provide for such temperatures and times of exposure to heat as have been shown by our own researches to be necessary to render the milk thoroughly safe. This milk must not contain over 50,000 bacteria per c. c. when delivered to the consumer, and must be delivered in bottles, except on special permit in certain cases. Containers must be labeled, "pasteurized," and the label must bear date and hour when pasteurization was completed, the place where it was performed and the name of persons or corporation performing it. The milk must be delivered to the consumer within 30 hours after pasteurization. Milk to be pasteurized must not contain over 200,000 bacteria per c. c.

Grade B. For Adults.

1. *Selected Milk, Raw.* From cows which are certified as healthy by veterinarians after physical examination. Farms must score at least 68 points, 25 for equipment and a minimum of 43 for method.

2. *Pasteurized Milk.* This milk must be delivered within 36 hours after pasteurization.

Grade C.

This grade is to be used for cooking and manufacturing purposes only, and includes all raw milk not conforming to the requirements of Grades A and B.

Recent Modifications of Grading Plan.

This classification has since been modified in two important particulars. In the first place it was found that in spite of warnings contrary, a certain amount of Grade C milk was consumed for drinking purposes. In order to remove the element of danger thus arising, it was decided that this class of milk must be heated in accordance with certain rules and regulations of the department.

In the second place, as the result of the study of a localized epidemic of typhoid fever, which occurred east of Broadway and south of 40th Street during September, 1913, the department ascertained beyond any reasonable doubt that a certain supply of Grade B milk was the means of transmitting the infection, and as a result raw milk was eliminated from Grade B. This action should be considered as the latest step in the execution of a carefully developed program under which the Department of Health for the past four years has endeavored gradually to bring about the pasteurization of the entire supply of general market milk of New York City. The adoption of the latest regulation requiring the pasteurization of all except the highest special grades of milk (which constitute an almost negligible percentage of the total supply) will mean that practically all milk sold in the city after February 1, 1914, must be pasteurized.

The Cleansing of Empty Milk Receptacles.

Section 183 of the Sanitary Code requires that all milk bottles and cans shall be cleansed before they are returned and the Court of Appeals on October 21, 1913, decided that the provision of the Sanitary Code of the City of New York, making it a misdemeanor for any person to "receive or have in his possession" any receptacle used in the transportation and delivery of milk or cream which has not been washed and cleansed immediately after emptying, is to be read "receive and have in his possession," and as thus construed violates no constitutional right and is within the police power of the State. The duty of cleansing the receptacle is cast first upon the person who empties it. If he fails to perform the duty, it then extends to any person into whose possession the uncleansed receptacle subsequently comes. The particular case, which has just been decided by the highest court of the State, originated from the prosecution of certain drivers of a milk company for leaving unwashed milk cans on the platform of a railway station. The case was first tried in the Court of Special Sessions, which found the defendant guilty. An appeal was taken to the Appellate Division of the Supreme Court, which upheld the decision of the Court of Special Sessions. Upon final appeal to the highest court of the State, the order and judgment of the Supreme Court was affirmed.

CHILD HYGIENE.

Extension of School Medical Inspection.

The system of supervision of the health of children maintained by medical inspection has been extended to include not only the public but the parochial schools, and, during 1913, it has been further extended to include all children lodged in public institutions throughout the city. Results in this work are shown by the fact that the cases of defective vision have been reduced from 13.1 per cent. in 1909 to 9.3 per cent. in 1912; defective nasal breathing, with presence of adenoid growths, from 18.7 per cent. in 1909 to 7.6 per cent. in 1912; hypertrophied tonsils have been reduced from 22 per cent. in 1909 to 10 per cent. in 1912.

School Clinics.

Six clinics for school children, with hospital facilities, were established in 1912. The only children treated at these clinics are those who are unable to pay for medical attention. The service includes examination of the eyes of children in need of eye-glasses, treatment of contagious eye diseases and operations for removal of enlarged tonsils and adenoids.

In 1913, six dental clinics for school children were established to provide dental treatment for children who were unable otherwise to obtain it.

It has been the practice at certain dispensaries in the city to operate for enlarged tonsils and for adenoids without anesthesia and to send the child home the same day. The department has followed the rule of performing these operations under a general anesthetic and the results obtained have been exceedingly satisfactory. The clinics are situated in those parts of the city where they were most needed, that is to say, where hospital or dispensary facilities were either inadequate or lacking. Each clinic has at the present time a long waiting list of children who are in need of treatment.

Midwives.

The latest and most important accomplishment in regard to midwives consists in an amendment to the rules and regulations whereby, after January 1, 1914, it will be necessary for all new applicants for permits to have completed a course at a recognized school for the training of midwives. This action places the midwife situation in New York City on a par with that of various European countries and in advance of that of any other city in the United States.

INFECTIOUS DISEASES

Typhoid Fever.

Up to the occurrence of the recent milk-borne outbreak of typhoid fever in the Borough of Manhattan, the incidence of this disease had steadily decreased until in 1912 it was less than ever before in the history of the city. A special staff of inspectors was organized, and every case of typhoid fever was immediately investigated with a view of determining the source of infection.

During the last two years, much light has been thrown upon the definite origin of outbreaks of typhoid fever due to milk in-

fection, through special investigations carried on by the New York City Department of Health. Several such outbreaks were traced definitely to so-called "carriers," persons who have recovered from an attack of typhoid fever but who remain infected and continue to discharge typhoid bacilli. One outbreak of 400 cases was traced to infection of a milk supply by a typhoid carrier who had had the disease 47 years ago. In another, 50 cases were traced to a man who seven years previously had suffered from the disease. These important discoveries led the department to urge strongly the necessity of the pasteurization of all milk except that produced under special sanitary conditions, and repeated amendments to the Sanitary Code have been made with this object.

Anti-Typhoid Immunization.

Anti-typhoid immunization was introduced by the Department of Health on January 1, 1913, and is now offered to every person exposed. Nearly five thousand injections have already been given.

By the first of April over 1,200 injections had been given to about 400 people with no serious reaction. Among those immunized but one person developed typhoid fever. This case was a child already in the stage of incubation, who came down two days after the initial dose. The course was exceptionally mild, an abortive form of the disease. It cannot be said in this case that the disease was possessed of little virulence, for two other children in the same family died with typhoid fever just before the culture was administered to the remaining members. There was no apparent reason for the favorable behavior in the third case, except the benign influence of the injected culture.

In a family of eleven there were two cases of typhoid. Immunization was offered to the remaining nine members. Eight accepted and did not contract the fever. The one who declined immunization did develop typhoid very soon thereafter.

Tuberculosis.

The system of registration and sanitary supervision of pulmonary tuberculosis was entirely reorganized and widely extended in 1910, this being made possible by the increase in the appropriation of $230,000. The number of district nurses was increased from twenty-three (23) to one hundred and fifty-nine (159), and the number of other employees (clerks, inspectors, physicians, etc.), was increased accordingly.

The percentage of cases of tuberculosis kept under observation by the Department of Health has increased from 12 per cent. in 1908 to 21 per cent. in 1913.

Tuberculous children are now excluded from school; a corps of scrub women has been established to disinfect premises previously occupied by consumptives; large quantities of tuberculosis literature have been printed, and issued by employees of the Department and through various organizations, and moving pictures and stereoptican tuberculosis exhibits have been given at night in the various parks.

While universally approved from the viewpoint of duty and on the ground of humanity, the campaign against tuberculosis, at present in active progress in many countries and nowhere more energetically prosecuted than in New York City, has been regarded rather dubiously by many, in so far as its capability of securing positive results was concerned. In fact, the attitude, not only of many members of the medical profession, but also of many laymen much interested in the subject, has been one of quiet and respectful doubt. It may be said that, up to the present time, judgment in this connection has been suspended, and indeed properly so.

The registration of cases of pulmonary tuberculosis in New York City by the Department of Health began in 1894, when 4,166 cases, chiefly from institutions, were reported in the Boroughs of Manhattan and The Bronx. The number of new cases reported increased steadily year by year until the maximum for the two boroughs, 21,331 new cases, was reached in 1910. In 1911 the number fell to 17,360, and in 1912 to 15,929. In 1910, when the figures for Greater New York first became available, 11,977 new cases were reported for the five boroughs. There was a steady increase to 32,065 in 1910 and a subsequent decline to 24,513 in 1911, and 22,752 in 1912. Does the apparent decrease during the past two years mean that the anti-tuberculosis campaign in New York City has begun to bear fruit? The mortality figures would seem to support an affirmative answer, the death rate from pulmonary tuberculosis in Manhattan and The Bronx having fallen steadily from 4.27 per 1,000 of population in 1881, to 1.9 in 1912, a reduction of 55 per cent., and the death rate of the Greater City from pulmonary tuberculosis has fallen from 2.25 in 1898 to 1.66 in 1912. In other words, although the population has increased in Greater New York from 3,272,418 in 1898 to 5,173,064 in 1912, the deaths from pulmonary tuberculosis in the latter year were 8,591, as compared with 7,724 in 1898. However, before relying on these statistics as proof of the good accomplished, certain facts must be borne in mind. In 1910 when the highest record of cases was reached, the Department of Health, thanks to a very large appropriation for tuberculosis work, was able to open a number of new tuberculosis clinics, and to increase considerably the staff of clinic physicians and tuberculosis nurses. This meant greatly increased activity in referring suspected cases of tuberculosis to the clinics, and, although most of the clinic physicians were new to the work, their diagnoses were accepted without question. The case figures for 1910 are, therefore, in all probability, too high. Since that year, however, confirmatory re-examinations of all cases failing to show tubercle bacilli in the sputum have undoubtedly greatly lessened the number of incorrect diagnoses, and it may therefore be assumed with fairness that the lower figures of 1912 do represent a decreased prevalence of the disease. In regard to the mortality statistics we must take into consideration the decrease in the prevalence and mortality of all infectious diseases, consequent upon the steady betterment of social conditions throughout the civilized world, and further, because of the steadily in-

creasing tendency of consumptives to leave the city and seek the country, the annual number of deaths from pulmonary tuberculosis in New York City fails to include many cases in which the disease was contracted in the city, but death took place elsewhere. Nevertheless, although extremely difficult to prove by statistics to which no exception can be taken, there can be no doubt in the mind of any one familiar with the tuberculosis situation in New York City that the disease is year by year steadily becoming less prevalent and less fatal, and that the anti-tuberculosis campaign has played a large part in bringing about this encouraging result.

Tuberculosis Clinics.

The first tuberculosis clinic was planned and organized during the administration of Mayor Low, 1902-1904. In 1910 eight new clinics were established, and in 1912 three additional clinics, making fourteen clinics now maintained by the Department of Health. Two clinics, especially for Italians, have been opened. Women's auxiliaries to the various tuberculosis clinics have been organized, and have rendered splendid service.

Hospital Admission Bureau.

The establishment of the Tuberculosis Hospital Admission Bureau at 426 First Avenue, was one of the most important steps taken toward the speedy and uniform admission of consumptives to institutions. Practically all consumptives who are public charges now pass through this Bureau, which is maintained jointly by the Department of Health, the Department of Public Charities, and Bellevue and Allied Hospitals.

Tuberculosis Boat Camps.

Two tuberculosis boat camps, one in Manhattan and one in Brooklyn, opened in 1909 by the Women's Auxiliary are now maintained by the Department for the care of patients during the day time.

Tuberculosis Sanatorium at Otisville.

During the last five years, the plant has been greatly enlarged and a fresh water reservoir has recently been built. In 1906-1908, 482 patients were treated at this institution; in 1909, 536; in 1910, 586; in 1911, 769; in 1912, 825. The figures for 1913 are not yet available but the present indications are that they will be considerably in excess of those for 1912.

The "Friedmann Cure."

When the exploitation of the so-called Friedmann cure for tuberculosis in this country was imminent, in the early part of 1913, the Board of Health became convinced, after due investigation of the story and claims and promises of the discoverer, that, while the presumption and the existing evidence were largely against the fulfillment of the claims which were so freely made it was still not wise or practicable, in view of the widespread hope of benefit which had been aroused among the victims of this disease, to

interfere at the moment with the use of the remedy, provided no evidence was to be adduced of the harmfulness of the living cultures which it was proposed to administer.

Such evidence was not at the time at hand, and, while the testimony as to the efficiency of the remedy from German observers was not at all encouraging, it was felt that a fair scientific test might wisely be given to the method. Under these conditions, although the Board of Health felt that it would not be wise or practicable for it to assume the supervision of such a series of tests, it welcomed the assumption of this task by the Federal authorities who had placed the matter in the hands of accomplished and experienced medical officials.

The unusual publicity which accompanied the introduction of this particular remedy and the large number of patients who applied for treatment threatened to bring about a general pilgrimage of sufferers from tuberculosis to New York City, and thus presented a new and acute problem to the Board of Health which already have grave doubts whether the department charged with the protection of public health should permit the general use of treatments by new and untried vaccines until evidence of their entire harmlessness had been produced.

On May 29, 1913, the Board of Health adopted the following resolution in the form approved by the Medical Advisory Board:

Whereas, In the judgment of the Board of Health, the use of living cultures of bacteria in the inoculation of human beings, for the prevention or the treatment of disease, may be fraught with serious danger to the individuals and to the public health, and

Whereas, The necessity and the harmlessness of such a procedure can be safely determined only by carefully planned and controlled and unbiased scientific measures and observations, and

Whereas, Certain tests of the efficiency and safety of an alleged cure for tuberculosis now being made in this City are being rendered unsatisfactory, unscientific and practically futile through the insistence of the originator of the alleged remedy, on conditions which involve inadequate observation, inaccurate methods of administration and the insistence on secrecy regarding the substance employed in some phases of the treatment, and

Whereas, Evidence is already at hand to show that the so-called remedy not only does not fulfill the promises of efficiency and safety under which its use was at first permitted in this City, but, on the contrary, during its administration many patients have suffered serious and unduly rapid progress of their diseases; therefore, be it

Resolved, That the use of living bacterial organisms in the inoculation of human beings for the prevention or treatment of disease shall be and is hereby prohibited in New York City, until after full and complete data regarding the method of use, including a specimen of the culture and other agents employed therewith, and a full account of the details of preparation, dosage and administration shall have been submitted to the Board of Health, and until permission shall have been granted in writing by the Board for the use of the same.

A short time before the action taken by the Department of Health, a company had purchased the rights of Friedmann's vaccine and had opened an institution in this city for the treatment of tuberculosis by Friedmann's method. The effect of the action taken by the Board of Health was to close this institution pending the decision on the application for a permit under the new rule. A number of persons had already been treated at various hospitals and at the Friedmann Institute and permission was requested by the institute to continue treatment of these cases. On June 27th, the Board of Health adopted a resolution forbidding the employment of the treatment except in cases already treated and prescribed very minutely the conditions under which such reinjection should be made. This resolution and the decisions later reached thereunder had the effect of denying the application of the Friedmann Institute, and thus closing this chapter of the history of tuberculosis in New York.

Acute Poliomyelitis.

This disease was declared infectious on January 1, 1911, and since that date the disease has been notifiable. Each case is investigated by a physician and quarantine is maintained.

During 1912 504 cases were reported in New York City with 57 deaths, a case fatality of 11.1 per cent., and a case incidence of 9.8 per 100,000 of the population. In 1911 there were 358 reported cases and 9 deaths, a case fatality of 2.5 per cent., and an incidence of 7.2. The increase during 1912 occurred chiefly in Manhattan where the case incidence rose from 9.2 in 1911 to 14.4 per 100,000 in 1912. As compulsory notification did not become effective until January 1, 1911, no cases beginning previous to that date are included. Owing to delays on the part of physicians many reports are not made until months, and not infrequently one or two years, have elapsed. Therefore many of the cases of 1912 began in 1911.

Cerebro-spinal Meningitis.

Cases of this disease are also kept under observation by the department's physicians, and the usual precautions maintained. The Research Laboratory provides free medical advice, including lumbar puncture and serum treatment. The death rate has been reduced from 0.75 per cent. per 10,000 in 1909 to 0.36 per cent. in 1912.

There has been but little cerebro-spinal meningitis in New York City during the past two years. During 1912, 268 cases were reported, with a case fatality of 72 per cent. and a death rate per 10,000 of 0.36. The corresponding figures for 1911 were 314 cases, case fatality 74 per cent., and death rate 0.47. Outbreaks of this disease are not very frequent, and show remarkable periodicity, occurring about once in every ten years.

Venereal Diseases.

On February 20, 1912, the Board of Health of the City of New York adopted a series of resolutions requiring the full notiation of all cases of venereal disease from public institutions and

requesting physicians to notify their private cases by number. The board also provided for the application of the Wassermann test for syphilis, the complement fixation test for gonorrhea, and for the examination of fresh smears for spirochetes and gonococci. This action was taken after very mature deliberation and with some reluctance and only after the proposal had been unanimously approved by the medical advisory board. The subject had been under discussion for more than three years, and the board of health fully realized the many difficulties of the problem presented in the sanitary surveillance of these diseases. The resolutions were finally adopted only after the Board of Estimate and Apportionment had provided funds for the erection of a pavilion at Riverside Hospital for the care of such cases of venereal disease as the department of health might be called upon to isolate and treat.

Three venereal diagnostic clinics, including two night clinics, have been established in which specimens are obtained from patients for subsequent examination. Through the generosity of the Bureau of Social Research a medical adviser to the venereal clinics has been appointed. On May 1, 1912, a serological laboratory was established for making the tests necessary in the diagnosis of venereal diseases. Judging by the extent of the use made by physicians of the advantages of this laboratory and also by the increasing attendance at the diagnostic clinics, there is reason to believe that the department's supervision of venereal diseases is becoming quite effective. In this connection it is also gratifying to note that many physicians are reporting their private cases. This is shown in the following table, which gives the number of cases reported from January 1st to October 1st, 1913, by institutions and by private physicians:

	Institutions	Private Physicians
Syphilis	2,311	5,440
Gonorrhoea	4,467	819
Chancroid	379	24

A campaign against venereal quacks is being waged by means of advertisements in the daily press, signs in the lavatories of saloons, etc.

Supervision of Contagious Diseases.

The city has been districted, as in the case of tuberculosis; branch registration offices have been established where nurses and inspectors report daily for duty, and where the records of all active cases are kept; and a new system of registration, corresponding to that found so valuable in tuberculosis, has been introduced.

The work of the nurses has been greatly extended, and they now perform all duties in connection with contagious diseases that do not call for the services of a medical man. The energies of the Department are being concentrated on diphtheria, scarlet fever and measles.

Whooping Cough.

Special attention is being paid to whooping cough, a disease causing more deaths than scarlet fever, the majority of which occ among infants less than one year of age. A special whooping cou

dispensary and a whooping cough camp and hospital have been opened. A special staff of inspectors visits cases of whooping cough, giving instructions for the protection of infants, and urging the attendance of the children at the clinic. Special bacteriological studies of whooping cough are in progress at the Research Laboratory.

Inspection of Institutions.

The department now exercises supervision over cases of contagious diseases occurring in all institutions throughout the City of New York by means of inspectors who are on duty at all times. Even dispensaries are visited every few days by the inspectors and complete records for each institution are now in the central office.

Disinfection.

The procedure has been greatly simplified and brought up to date. Terminal disinfection in measles and diphtheria is now omitted, together with the disinfection of bedding. Careful observation, as well as bacteriological investigations, has led more and more to the knowledge that, as a rule, the goods have very little power of giving infection after the recovery of the patient. Human carriers, rather than goods, have been proven to be the source of contagion.

Bacteriological Diagnosis.

Since January 1st, 1909, the work of the Diagnosis Laboratory has been notably extended. Its staff was markedly increased in 1910, the chief object being to secure proper examination of specimens of sputum.

The number of collection routes (supply stations visited by Department collectors) has been nearly doubled. The total number of supply stations throughout the city has been greatly increased, thus enlarging the facilities afforded to physicians, and the character of examinations made has been greatly improved. The number of sputum examinations has increased from 30,000 in 1908 to over 40,000 for 1913. There has been a corresponding increase in laboratory examinations for typhoid, diphtheria, etc.

In 1908 there were 116,000 specimens examined, while in 1912 there were 131,000.

FOOD INSPECTION.

In spite of the fact that the number of food inspectors is wholly inadequate to the work to be performed, the installation of more efficient procedure during the last few years has made possible the accomplishment of much good work.

Need of Larger Appropriations.

Each year the department has called attention to the urgent need of a larger staff of food inspectors. There are approximately 19,000 places where food is prepared, sold or handled in the city, all of which should be thoroughly inspected. This would require the services of at least 150 inspectors. The force of food inspectors has consisted of 30 men until very recently, when the repeated

appeals to the Board of Estimate and Apportionment were answered by appropriations providing for 10 additional men.

Emphasis on Prosecutions.

Much more effective use of the small force of inspectors has resulted from a change of policy which holds the wholesale dealers and merchants strictly accountable for what is sold in their establishments. The former policy was to inspect these places and condemn all the foods unfit for consumption. Now, in addition to the condemnation, arrest and prosecution in the criminal courts is the routine procedure. The effectiveness of the new policy is very apparent to those who are familiar with food conditions in the city and are able to note the improvements which have resulted.

Condemnation of Canned Goods.

Another new policy of the present administration has been to forbid the reshipment to the manufacturer of spoiled canned foodstuffs which was formerly done for the ostensible purpose of "identifying the goods," but often, it was feared, in order to use the material over again. Leading wholesale dealers have co-operated with the department in the enforcement of the present rule, which has resulted in the condemnation and destruction of millions of pounds of such material during the past few years.

Preservatives in Meat.

The adulteration of meats for the purpose of preservation, which had become quite common during recent years, has now practically disappeared as a result of vigilant inspection. Thousands of samples of meats have been collected for the chemical determination of the presence of sulphites, borates and formaldehyde. In every case where these adulterants have been found, prosecution has immediately followed, and the penalties imposed by the courts have been so severe that the evil has practically disappeared. Sulphites, in the form of powders disguised under various names, were the favorite adulterants employed, and the samples in which they were discovered were most frequently chopped meats.

Bakeries.

Active investigations of conditions prevailing in bakeries has resulted in raising these establishments to a higher sanitary plane. Large fines and in some cases prison sentences effectively diminished the use of unfit eggs and spoiled fruits. As a result of the discovery of unsanitary conditions and the consequent public discussion, legislation was adopted which put an end to an unfortunate duplication of authority with the State Department of Labor. The new State Labor laws placed the entire responsibility for conditions in bakeries in first-class cities upon the Department of Health. In New York this means the additional burden of 3,000 places to be inspected and 10,000 employees to be examined, while not a single additional inspector has been provided for this work.

Physical Examination of Bakers.

An event notable in the history of the work of the Department of Health was the examination of the employees of bakeries, which was instituted in September, 1913, under the new law just referred to. The sanitary supervision of all bakeries is provided for by Section 113a, which reads as follows:

> "No person who has any communicable disease shall work or be permitted to work in a bakery. Whenever required by a medical inspector of the Department of Labor, any person employed in a bakery shall submit to a physical examination by such inspector. No person who refuses to submit to such examination shall work or be permitted to work in any bakery."

The bakeries in New York City number 4,250, and range from the little one-room shop on Avenue A to the huge factories occupying several city blocks, and furnishing food not only to New York City but elsewhere.

The number of persons employed in bakeries in New York City is, approximately, 15,000. Such a large body of people, unless subject to frequent and skilful examination, must contain, year by year, an increasingly large percentage of sufferers from communicable diseases, especially tuberculosis and syphilis.

On September 4th, 1913, all owners of bakeries were notified by the Department of Health that their employees must be examined at one of the Department Clinics, and that no employee who failed to obtain a certificate of health, would be permitted to continue to work in any bakery in the City. The work of examination has been going on ever since and is now practically finished; 12,000 have been examined, and such as have been found to have any communicable disease, have been obliged to give up work as bakers and advised to take such treatment as would best meet the requirements of their individual conditions.

Where it has been necessary for the wage-earner to go to a hospital or to accept less lucrative employment to the economic detriment of his family, his burdens have been assumed by some one of our admirable charitable organizations, which lends the unfortunate a helping hand until the family may become rehabilitated. Fortunately, such cases are rare, few families having been found who needed aid. Many of these sufferers, by undergoing adequate and proper treatment in the incipiency of their disease, will be cured and will be able to resume their former employment with safety to the public.

Exposure of Foodstuffs.

The sections of the Sanitary Code relating to the exposure of candy and other foodstuffs in the streets have been actively enforced so that at the present time glass covers are universally provided on stands and push carts to protect candy and similar food materials from contamination by flies and dust. Constant vigilance and prosecution is still necessary to insure that the covers are kept down.

Recently the Sanitary Code has been amended to extend this protection of foodstuffs to all food exposed in stores, restaurants, and similar premises. During the summer of 1913, determined enforcement of this provision brought about radical improvement in conditions in such places.

Eggs.

The handling of eggs and egg products has been placed under more effective control by the adoption and enforcement of strict regulations, and as a result this business has been put on a more legitimate basis than ever before. The problem is to prevent unfit eggs from entering the market as food, while permitting their legitimate use by leather manufacturers in tanning. This industry is now controlled by requiring permits and enforcing stringent regulations which compel the breaking out of eggs to be done under conditions permitting effective supervision by the inspectors.

Slaughter House and Sausage Manufactories.

As a result of a more strict supervision of the slaughter houses during the past few years, those under municipal surveillance compare very favorably with those inspected by the United States Department of Agriculture through its Bureau of Animal Industry. In February, 1913, the Board of Health adopted rules and regulations in regard to sausage manufactories and establishments for smoking and preserving meat, with the result that there has been a marked improvement in their sanitary condition. Permits to conduct these establishments are now required and better control thereby secured.

Wood Alcohol and Narcotic Drugs.

The Sanitary Code has been amended so as to prohibit the improper use of wood alcohol and the sale of morphine and other narcotic drugs besides cocaine except upon a physician's prescription.

Saccharin and the Copper Salts.

As the result of regulations prohibiting their use, the sale of vegetables colored with copper salts has practically ceased, as has also the unlawful employment of saccharin as a substitute for sugar.

Statistics of Food Inspection.

	Total Inspections	Total Pounds Condemned	Amount of Fines	Arrests
1910.....	871,684	22,560,154	$5,107.50	796
1911.....	479,262	14,029,641	8,911.50	1,616
1912.....	423,732	23,880,321	14,070.75	2,260
1913.....	376,731	12,908,814	32,249.50	3,249
	2,151,409	73,378,930	$60,339.25	7,921

The amount of condemnations and number of inspections have decreased on account of the excessive amount of time spent in court as the increase in fines and arrests will show.

GENERAL SANITATION.

The Smoke Nuisance.

An important decision of the Appellate Division of the Supreme Court was handed down December 5, 1913, sustaining the constitutionality of Section 181 of the Sanitary Code, which prohibits the discharge of dense smoke, and reversing the decision of the Court of Special Sessions, rendered in June, 1913, as a result of which the control of the smoke nuisance in New York City which was for the time being seriously crippled.

The decision arose out of some twenty-eight separate actions commenced by the Department of Health against the New York Edison Company for the discharge of dense smoke and cinders from its plant at 39th Street and East River. These actions, begun in the Magistrates' Court, came before the Court of Special Sessions on demurrer. In June, 1913, the Court of Special Sessions, in an opinion rendered by Chief Justice Russell, held that Section 181 of the Sanitary Code, in so far as it prohibited the discharge of dense smoke, was unreasonable and therefore unconstitutional.

Following the decision of the Court of Special Sessions, the smoke nuisance materially increased in New York City. All that the Department of Health could do was to prosecute small offenders where the engineers and firemen could be held personally responsible. Such cases could be disposed by the Magistrates' Court on the theory that the decision of the Court of Special Sessions did not bind the magistrates, since appeal from these courts lies to the Court of General Sessions. No actions could be brought against corporations, however, since the magistrates had no jurisdiction of try such cases, which are referred to the Court of Special Sessions. Although under this plan most of the magistrates upheld the view of the Department of Health and fined the defendants, the nuisance increased because the corporations were, for the time being, beyond the reach of the law.

In the meantime, an appeal was taken from the decision of the Court of Special Sessions and urged with all proper expedition before the Appellate Division of the Supreme Court.

This decision in the department's favor was the result, and it signalizes the active resumption of the campaign to combat the smoke nuisance in New York.

Abolition of Common Drinking Cup and Common Towel.

By the adoption of Section 189 of the Sanitary Code, as amended January 30, 1912, the use of the common drinking cup was prohibited in "any public place, park, street or avenue, public institution, or in any hotel, theatre, factory, school, public hall or in any railroad car or ferry boat, or in any railway station or ferry house."

By Section 190, adopted January 4, 1912, the use of the common towel was prohibited in "any public lavatory, washroom or public comfort station."

Extermination of Mosquitoes.

In accordance with a resolution adopted by the Board of Health March 11, 1913, the Board of Aldermen were petitioned to request the Board of Estimate and Apportionment to authorize the Comptroller to issue special reserve bonds in the sum of $66,400 for the purpose of enabling the Department of Health adequately to maintain and extend the work of mosquito extermination in the Boroughs of The Bronx, Brooklyn, Queens and Richmond. In the Boroughs of The Bronx and Queens, several parcels of land are still undrained, the most notable and most complained of, perhaps, being Pelham Bay Park in The Bronx. In the Borough of Brooklyn very little progress has been made. The work of mosquito extermination has been constantly performed in the Borough of Richmond, and, at the present time, is progressing favorably.

Transportation of Fat and Fresh Bones.

At a meeting of the Board of Health of the Department of Health held February 25, 1913, a resolution was adopted providing that on and after June 1 "the bringing into The City of New York of the following materials is prohibited: Green (fresh) bones; fat, except such fats as are wholly and exclusively used for the preparation of edible products may, under a permit of this Board and subject to its rules and regulations, be brought into the City for the purposes mentioned. The prohibition herein contained shall not apply to dry and inoffensive bones brought into the City for the purpose of manufacture." Later this prohibition was deemed too stringent and likely to cause unnecessary hardship in certain instances, and at a meeting of the Board of Health of the Department of Health held July 1, 1913, the following resolution was adopted:

Whereas, At a meeting of the Board of Health of the Department of Health of The City of New York held February 25, 1913, the bringing of fat and green (fresh) bones into The City of New York, except such fats as are wholly and exclusively used for the preparation of edible products, was prohibited on and after June 1, 1913; and

Whereas, It appears by the report of the Assistant Sanitary Superintendent dated June 28, 1913, that the business of bringing fats from places outside The City of New York is not a nuisance in any way when properly conducted, and that the said business can be so conducted; it is, therefore, hereby

Resolved, That the resolution aforesaid, dated February 25, 1913, be and the same is hereby amended so as to allow the bringing of fats and green (fresh) bones into The City of New York, in accordance with the provisions of section 95 of the Sanitary Code, pursuant to a permit from this Board, and in accordance with rules and regulations which may be prescribed from time to time therefor.

Sterilization of Bathing Suits.

During the summer of 1913 a business was established opposite the municipal baths at Coney Island for the purpose of hiring out bathing suits to bathers, and it developed that the Department

of Health, under Section 26 of the Sanitary Code, which relates to bathing beaches, could not enforce the proper sterilization of these suits. Section 26 was therefore amended at a meeting of the Board of Health, held October 28, 1913, in order to remedy this defect. The entire resolution is lengthy and it hardly seems necessary to quote it in full. The amendment adds that "bathing suits shall not be hired out * * * without a permit in writing from the Board of Health and subject to the conditions thereof."

LABORATORY WORK.

The scope of the research laboratory was enlarged on January 1st, 1911, by the addition of a special division called the Division for Specific Therapy and Preventive Medicine. The addition allowed the production, distribution and administration of the antimeningitis serum and the sending of experts to make lumbar punctures in cases of meningitis in which help in diagnosis or treatment was required. This practical application of laboratory assistance in diagnosis and treatment was a new departure and has given great satisfaction to physicians and help to the sick.

In May, 1913, the laboratories were again enlarged by the development of a laboratory at the Otisville Sanatorium.

Relative Importance of Bovine Tuberculosis.

For three years the subject of the relation of milk infected with bovine tubercle bacilli to human tuberculosis was under investigation. A third of all the cases of tuberculosis investigated for this purpose in the world were tested in the Research Laboratory. The results definitely demonstrated the amount of danger from milk which has not been pasteurized. This was shown to be great for infants, less for children and of almost no importance in adults.

Study of Trachoma.

The study of trachoma has led to a much clearer idea of the etiology of the disease and to the establishment of ophthalmia schools, school clinics and follow-up work at the homes of the infected children. One of the results was the establishment of summer camps, so that the chronic cases could be put under the very best conditions. The methods perfected for the diagnosis and control of trachoma have lessened the number of cases existing.

Emergency Laboratory Work.

The value of the laboratory in emergencies was illustrated twice during the past four years. Once, when the city was threatened by cholera; in this case the city laboratories co-operated with the state laboratory at quarantine and examined 3,100 specimens of suspected fæces. Again when from fear of bubonic plague, over 2,000 rats were examined for the possibility of infection.

HOSPITALS.

The Department of Health maintains three hospital systems for the care of infectious diseases. One situated on North Brother Island is called the Riverside Hospital, another at the foot of East 16th Street is ealled the Willard Parker Hospital, and the third in the Flatbush section of Brooklyn is called the Kingston Avenue Hospital. During the past four years four eonerete pavilions for tuberculosis patients and an addition to the nurses' home have been built at the Riverside Hospital.

At the Willard Parker Hospital, a new measles building has been completed providing aeeommodation for 320 patients.

In 1910, a new laundry building was construeted at Kingston Avenue Hospital, and later a new system for the disposal of sewage was installed and an isolation pavilion built.

New Hospitals for Contagious Diseases.

On June 11, 1909, the Board of Estimate and Apportionment authorized the issue of corporate stock in the amount of $230,000 for the eonstruction of buildings upon the "Haacke Farm," a site acquired in 1903 for a new contagious disease hospital in the Borough of Queens. On June 10, 1910, the Comptroller reeommended the selection of another site, "on an island or on the water-front of the Borough of Queens," and further reeommended that the suggestion be made to the Department of Health to turn over the Haaeke Farm to the Commissioners of the Sinking Fund, and that the Board of Health request authority from the Board of Estimate to purehase new sites when selected. The Department of Health accordingly made every effort to secure another site for a eontagious disease hospital in the Borough of Queens, but was unable to locate any property that would be suitable for the erection of any kind of a hospital. No island suitable for the purpose exists in Jamaica Bay. Under the circumstances, the Board of Health was compelled to urge upon the Board of Estimate and Apportionment the necessity of rescinding its action of June 10, 1910, and permitting the retention of the Haaeke Farm property for the purposes for whieh it was originally acquired.

In the calendar of the Board of Estimate and Apportionment for Thursday, Mareh 27, 1913, under the heading of public improvements, appeared the following:

> "Report of the Corporate Stoek Budget Committee, recommending that the resolution adopted June 17, 1910, whieh reeommended to the Board of Health the abandonment of the 'Haacke Farm property' in the Borough of Queens as a site for a eontagious disease hospital, and further, that another site or sites be seleeted, *be rescinded*, for the reason that in a matter so vital as the preservation of the public health, the adviee of those who are charged with the duty of proteeting the public health should be followed."

This marked the termination of the efforts to prevent the establishment of a hospital for contagious diseases in the Borough of Queens, at the site selected by the Department of Health, arrangements for construction of the building are being rapidly advanced.

Similar obstacles were encountered to the construction of a new hospital in the Bronx, but after much delay an agreement is in sight for the substitution of a new location for one purchased many years ago and the prospects for the building of this much needed hospital are brighter than for some time past.

Automobile Ambulances.

In 1912, two automobile ambulances were purchased for the service of the hospitals for infectious diseases. These were the first ambulances of this character employed by the department and they have resulted in a great improvement in the service.

VITAL STATISTICS.

In 1911, an Advisory Committee on improving the statistical work of the Department was appointed, consisting of some of the most eminent vital statisticians in the country. After a series of meetings and discussions this Committee suggested the reorganization of the Bureau of Records as a Bureau of Vital Statistics with three divisions, a Division of Records, a Division of Statistical Research, and a Division of Publicity.

Appropriations to carry out this recommendation and place the keeping of vital statistics in New York on a par with the methods of European cities have been requested annually for three years without result.

Reporting of Births.

For the first time in the history of the department a determined effort was made to prosecute physicians and midwives for failure to report births. Over 350 offenders have been prosecuted. At the present time the department believes that about 98 per cent. of all births are reported.

A Life Table for New York City.

In 1912, a life table for the City of New York, based upon the Federal Census returns for the year 1910 and the deaths for the years 1909, 1910 and 1911, was prepared. This was the first time such a table has been constructed under the auspices of the Department of Health. According to these calculations, ten years has been added to the mean duration of life since 1880, the mean duration now being 50.1 years in the case of males and 53.8 in the case of females.